



File Code: 3400

Date: April 30, 2009

Mr. Charles Magale
Chief of Maintenance
USDI National Park Service
Edison National Historic Site
Corner of Main St and Lakeside Avenue
West Orange, NJ 07052

Dear Mr. Magale:

On February 11, 2009, Brad Onken and Karen Felton from our office visited Edison National Historic Site to assess the status of the hemlock woolly adelgid (HWA), *Adelges tsugae* and the elongate hemlock scale (EHS), *Fiorinia externa* populations and the need for treatment in 2009.

There are approximately 150-200 hemlock trees, ranging from 6-16 inches in diameter at Edison NHS. HWA densities ranged from moderate to high and populations will continue to increase this spring. EHS densities ranged from none to light and population densities will likely remain low as long as tree health conditions are good. If HWA populations are not controlled soon however, tree health will begin to decline and stressed trees provide more favorable conditions for EHS. Our recommendation is to continue treating these trees to control these pests.

Several new insecticide formulations have recently become commercially available for HWA and EHS control that you may wish to consider. In fact, since you have a fair number of hemlocks to protect, you may want to consider treating groups of trees with different insecticides to see for yourself how well they perform and their ease in application.

Recommended treatment options are as follows:

- Continue treating with horticultural oil sprays at least twice a season for HWA and EHS control. Treatment timing is very important when applying these sprays and the most susceptible life stage of both insect pests are the crawlers and early instar nymphs. Spring and fall for HWA and late spring to early summer for EHS would be the ideal times to apply these treatments. Also important is to thoroughly saturate the entire crown of the trees to ensure the oil spray comes in contact with the insect. Good coverage is often difficult to achieve on tall trees with this method.
- Treatment by soil injection or soil drench around the base of the trees with imidacloprid, a systemic neonicotinoid. It can take several months for imidacloprid to be taken up by the tree but can remain effective for suppressing HWA populations for 3-5 years. Timing for imidacloprid application is typically in the fall or spring when translocation is more frequently occurring in hemlocks. Imidacloprid is very effective in controlling HWA but less so for EHS.



- Treatment with CoreTect™, a tablet formulation of imidacloprid. The tablets are deposited 2-3 inches in the soil around the base of the infested tree, are easy to apply, and offer an even slower release of the insecticide. Timing for CoreTect™ applications can be anytime the soils are not frozen or saturated.
- Treatment by soil injection or soil drench around the base of the trees with dinotefuran (Safari® 20 SG), which is another systemic neonicotinoid. Dinotefuran has been shown to be effective within a few weeks after application, but does not offer the long term benefits of imidacloprid. Dinotefuran is however very effective at suppressing both HWA and EHS. Optimal timing for HWA suppression with dinotefuran is in the spring or late fall and in the spring to mid-summer for control of EHS.

Both imidacloprid and dinotefuran have been demonstrated to be of low risk to humans and non-targets when applied properly and the USDA Forest Service has contracted the preparation of a human health and ecological risk assessment for use in our HWA treatment program. Both assessments can be viewed at: http://www.nvo.com/sera_inc.

If you would like to pursue any of these treatments our office will be happy to assist you. If you have any questions or would like our assistance, please contact Brad Onken at 304-285-1546 or Karen Felton at 304-285-1556.

Sincerely,

ROBERT LUECKEL
Field Representative
Morgantown Field Office

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